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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,460	11/26/2003	Louis G. Kovach II	021755-000500US	5953
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TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER MCCLLOUD, RENATA D	
			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. ✓ 10/723,460	Applicant(s) KOVACH ET AL.	
	Examiner Renata McCloud	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-20 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 1-11 recite "control wheel" whereas the detailed description of the specification recites, "control knob". Consistency in terminology is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hass (US 6179105)

Claim 1: Hass teaches a method comprising providing a rotating control wheel; determining a speed of the wheel over a period by a user (col. 4:6-16, col. 3:59-63, whoever is operating the apparatus determines the speed); correlating the magnitude of power provided to the vehicle with a speed of the rotation of the wheel (col.4: 26-39, Col. 4:59-5:5). Hass does not teach a period of about 50 ms or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, since it has been

held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Claim 2: Hass teaches except for correlating the power with a speed of rotation comprises multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to multiply distance by a factor since it was well known in the art that is known that speed is a distance over time, so the factor would be $1/t$).

Claim 3: the speed is determined when the wheel rotation exceeds 200ms/rotation (col. 4:4-16,col. 6:7-22 the speed is determined over several periods).

Claim 4: the factor is proportional to the speed (col. 4: 4-16).

Claim 5: correlating the power comprises generating pulses based on the wheel rotation (col. 3:59-63)

Claims 6-8: Hass teaches generating pulses with an encoder (col. 3:36-44). Hass does not teach the encoder components or how the encoder functions. It would have been obvious to one having ordinary skill in the art at the time the invention was made provide such devices since it was well known in the art that encoders comprise such components and function in that manner.

Claim 9: controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path (col. 3:36-44,col. 4:59-5:5, it is known that an encoder functions this way).

Claim 10: correlating the magnitude of power to a rail of a model train set (col.3: 29-36).

Claim 11: powering a remotely controlled train (col. 3:29-36, Fig. 2:6, the controller is remotely positioned away from the train).

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al (US 5749547) in view of Rosenberg et al (US 6956558)

Claim 1: Young et al teach a control knob (fig. 2:36); an encoder (38) determining a speed of the knob over a period (col. 6:38-62); a processor (54) correlating the magnitude of power provided to the vehicle with a signal from the knob (col.6: 38-49), the knob using an encoder similar to those used in mice or track balls (col. 6:53-63). They do not teach the signal being the speed of the rotation of the knob. Rosenberg et al teach correlating the speed of rotation of a knob with the output of a model vehicle (col. 21:44-22:3; col. 19:39-45). They do not teach a period of about 50 ms or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Young et al to use the wheel taught by Rosenberg et al and to use a period of about 50ms or less, in order to control the vehicle and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Claim 12: Young et al teach a control knob rotated by a user (fig. 2:36); an encoder (38) determining a speed of the knob over a period (col. 6:38-62); a processor (54) correlating the magnitude of power provided to the vehicle with a signal from the knob (col.6: 38-49), the wheel using an encoder similar to those used in mice or track balls (col. 6:53-63). They do not teach the signal being the speed of the rotation of the knob. Rosenberg et al teach correlating the speed of rotation of a wheel with the output of a model vehicle (col. 21:44-22:3; col. 19:39-45). They do not teach a period of about 50 ms or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Young et al to use the wheel taught by Rosenberg et al and to use a period of about 50ms or less, in order to control the vehicle and since it has been held that where the general conditions

of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Young et al and Rosenberg et al teach the limitations of claims 1, 12. With respect to claims 2-11, 13-20:

Claim 2, 13, and 14: Young et al and Rosenberg et al teach the claimed invention except for correlating the power with a speed of rotation comprises multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to multiply distance by a factor since it was well known in the art that is known that speed is a distance over time, so the factor would be $1/t$).

Claims 3: Young et al and Rosenberg et al teach the claimed invention except for the speed is determined when the wheel rotation exceeds 200ms/rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)

Claim 4: Young et al and Rosenberg et al teach the claimed invention except for the factor is proportional to the speed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to multiply distance by a factor since it was well known in the art that is known that speed is a distance over time, so the factor would be $1/t$).

Claim 5: Young et al teach correlating the power comprises generating pulses based on the wheel rotation (col. 6:38-62, an encoder)

Claims 6-8, 15-18: Young et al teach generating pulses with an encoder (col. 6:54-63). Rosenberg et al teach generating pulses with an encoder (col. 12:40-41). They do not teach the encoder components or how the encoder functions. It would have been obvious to one having

ordinary skill in the art at the time the invention was made provide such devices since it was well known in the art that encoders comprise such components and function in that manner.

Claim 9: Young et al and Rosenberg et al teach the claimed invention except for controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path. It would have been obvious to one having ordinary skill in the art at the time the invention was made to control the polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path polarity since it was well known in the art that an encoder functions this way.

Claim 10: Young et al teach correlating the magnitude of power to a rail of a model train set (col. 7:1-3, 65-67).

Claim 11: Young et al teach powering a remotely controlled train (fig. 1; col. 7:57-8:3).

Claim 19: Young et al teach an antenna for communication between a power source and a processor (Fig. 12:142).

Claim 20: Young et al teach a wired communications link between the power source and the processor (fig. 13:150)

5. Claims 1- 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Procab manual.

Claim 1: method comprising providing a rotating control wheel; determining a speed of the wheel over a period by a user (whoever is operating the apparatus determines the speed); correlating the magnitude of power provided to the vehicle with a speed of the rotation of the wheel (pg 3 speed control section). They do not teach a period of about 50 ms or less. It would

have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Claim 12: a control knob rotated by a user; an encoder determining a speed of the wheel over a period; a processor correlating the magnitude of power provided to the vehicle with the speed of the rotation of the wheel (pg 3 speed control section). It would have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Claims 2, 13, and 14: correlating the power with a speed of rotation comprises multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be $1/t$).

Claims 3: Procab teaches the claimed invention except for the speed is determined when the wheel rotation exceeds 200ms/rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)

Claim 4: the factor is proportional to the speed (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be $1/t$).

Claim 5: correlating the power comprises generating pulses based on the wheel rotation (pg 3 speed control section)

Claims 6-8,15-18: generating pulses with an encoder (pg 3 speed control section)

Claim 9: Procab teaches the claimed invention except for controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path. It would have been obvious to one having ordinary skill in the art at the time the invention was made to control the polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path polarity since it was well known in the art that an encoder functions this way.

Claim 10: correlating the magnitude of power to a rail of a model train set (pg. 2, introduction).

Claim 11: powering a remotely controlled train (pg 2, introduction).

6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hass (US 6179105), and further in view of CUI Inc.

Claim 1: Hass teaches a method comprising providing a rotating control wheel; determining a speed of the wheel over a period by a user (col. 4:6-16, col. 3:59-63, whoever is operating the apparatus determines the speed); correlating the magnitude of power provided to the vehicle with a speed of the rotation of the wheel (col.4: 26-39, Col. 4:59-5:5). Hass does not teach a period of about 50 ms or less. CUI Inc teaches an encoder with a frequency response of 500 Hz (see electrical specifications). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Hass to use the encoder taught by CUI Inc in order to sample the speed over a period of 50 ms or less.

Hass and CUI teach the limitations of claims 1. With respect to claims 2-11, Hass teaches:

Claim 2: correlating the power with a speed of rotation comprises multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation (col. 4: 4-16, it is known that speed is a distance over time, so the factor would be $1/t$).

Claim 3: the speed is determined when the wheel rotation exceeds 200ms/rotation (col. 4:4-16,col. 6:7-22 the speed is determined over several periods).

Claim 4: the factor is proportional to the speed (col. 4: 4-16).

Claim 5: correlating the power comprises generating pulses based on the wheel rotation (col. 3:59-63)

Claims 6-8: generating pulses with an encoder (col. 3:36-44)

Claim 9: controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path (col. 3:36-44,col. 4:59-5:5, it is known that an encoder functions this way).

Claim 10: correlating the magnitude of power to a rail of a model train set (col.3: 29-36).

Claim 11: powering a remotely controlled train (col. 3:29-36, Fig. 2:6, the controller is remotely positioned away from the train).

Response to Arguments

7. Applicant's arguments filed 08/15/2005 have been fully considered but they are not persuasive.

In response to applicant's argument, with respect to claim 1, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant

relies (i.e., the wheel is turned by a user) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim language reads that a user determines the speed.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both Hass and CUI use an encoder to detect the speed. If a certain sampling period is desired, it would be obvious to use a different encoder that can obtain that period.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

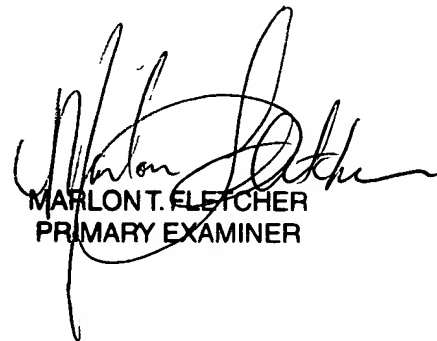
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud
Examiner
Art Unit 2837

RDM



MARLON T. FLETCHER
PRIMARY EXAMINER